Hiroshi INOUE*: **Hepatics from Isl. Palau, Caroline**

井 上 浩* パラオ島の苔類

This paper is conserning with the hepatics collected by Prof. K. Watanabe (Geological Institute, Faculty of Science, Tokyo University of Education) on Palau Isl. (roughly 134.30°E, 7.30° N) of Caroline Isls. He stayed there during Dec. 1940 and Jan. 1941, and collected many herbarium specimens. The materials of hepatics comprises 36 packets, and were reserved in the herbarium of Chichibu Museum of Natural History.

I confirmed 27 species, most of them have been unknown from Caroline as well as Micronesia, and 2 is new to science.

1. *Riccardia platyclada* Schiffn. No. 18; known from Java, Sumatra and Borneo.

2. *Riccardia* sp. No. 52 (few fragments among mosses).

3. *Mastigophora diclados* (Brid.) Nees. 11 packets were gathered. This species seems to be one of the main component of the mossy forest of the island. Many mosses and hepatics were associated. Widely distributed in tropical regions.

4. *Lepidozia wallichiana* Gott. No. 54 (on soil with mosses); known from many states of tropical and subtropical regions.

5. **Acromastigum palauense** Inoue, sp. nov. (fig. I, q-x)

Sterilis; gracillima, fragillis, caespitosa, in muscis consobiata. Caulis 6-10mm. longus, ad. 0.15 mm. latus, cum foliis 0.8-1.0 mm. latus, parum ramosus, flagellis pauci. Folia caulina contigua vel parum imbricata, recte patula, 0.34-0.4 mm. longa, 0.14-0.2 mm. lata, concava, in plano oblongo-rectangularia, parum falcata, apice ad 1/3 biloba, asymmetrica, sinu acuto, lobis dorsalibus 6-8 cellulas latis, late triangularibus, subacutis, lobis ventralibus 3-4 cellulas latis, oblongo-triangularibus, obtusis vel subacutis, margine leviter crenulatis. Cellulae medianae 17-21 ×30-40 μ, basales 13-17×33-42 μ (16-23×50-60 μ ad ventrali-basales), margine dorsale ad 13×17 μ, parietibus tenuibus, trigonis minutis, cuticula distincte verruculosa. Amphigastria caulina minuta, remotiuscula, transverse inserta, caulibus subaequilata, inciso-trilobata, lobis parum incurvis, 2 cellulas latis ad basim, 4-5 cellulas longis, sinu subacutis vel rotundato, disco 2 cellulas alto, cellulis ut in foliis.

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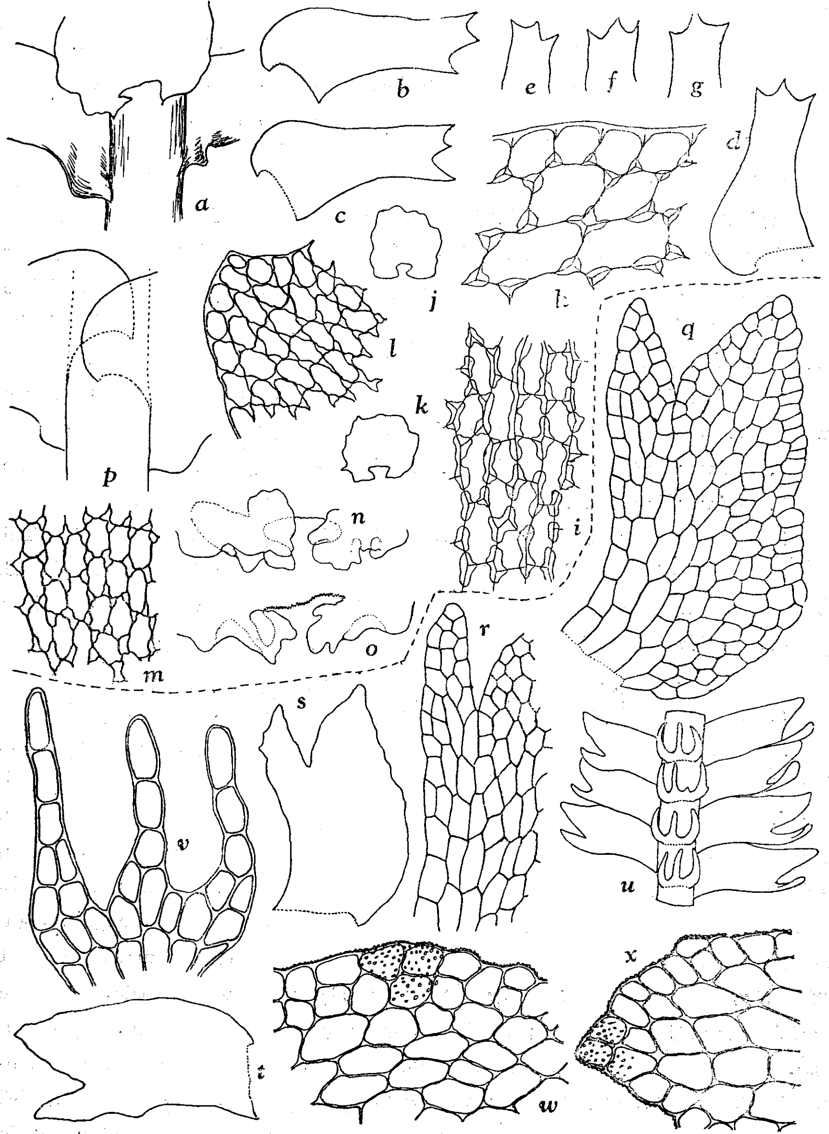

Fig. I. *Bazzania watanabei* Inoue (a-p) and *Acromastigum palauense* Inoue (q-x). a. Part of plant, showing ventral base of underleaf and leaves, ×20. b-d. Leaves, ×10. e-g. Apices of leaves, ×10. h. Cells from leaf-margin, ×300. i. Cells from leaf-base, ×135. j-k. Underleaves, ×10. l. Cells from underleaf-margin, ×135. m. Cells from underleaf-middle, ×135. n-o. Bases of underleaves, ×40. p. Part of plant, showing dorsal insertion of leaves, ×20. q. Leaf, ×135. r. Ventral lobe of leaf, ×135. s-t. Leaves, ×75. u. Part of plant, ventral view, ×40. v. Under-leaf, ×300. w. Cells from leaf-margin, partially showing verrucosed cuticle, ×300. x. Apex of dorsal lobe, partially showing verrucosed cuticle, ×300. All figures were based on each type specimens.

Isl. Palau: K. Watanabe no. 11–type (in herb. Tokyo Univ. Education; duplicate in herb. NICH), and nos. 1, 13, 49, 55. This species is near to *A. obliquatum* (Mitt.) Evans of Solomon Isls., but it is different in its shape of underleaves and verrucose cuticle. *A. palauense* is also near to *A. laevigatum* (Mitt.) Evans, but it differs in the size and shape of underleaves, thin-walled cells and verrucose cuticle. *A. emarginatum* Herz. of Borneo has a similar cuticle, but differs in its shape of leaves and underleaves.

6. *Bazzania* sp. Nos. 1, 27, 32, 33, 53; somewhat similar to a form of *B. japanica* of Japan and Sumatra.

7. **Bazzania watanabei** Inoue, sp. nov. (fig. I, a–p)

Sterilis; magna, dense caespitosa, rufi-olivacea. Caulis 7–9 cm. longus, ca. 0.4 mm. latus, cum foliis 2–3 mm. latus, simplex, flagellis numerosis, 2–3 cm. longis. Folia caulina imbricata, apicibus liberis, plano-disticha, recte patula, anguste ovato-oblonga, parum falcata, subapice leviter constricta, 2.0–2.4 mm. longa, basi 1.0–1.2 mm. lata, apice recte vel suboblique truncata, 0.5–0.8 mm. lata, tridentata, dentibus late triangulatis, validis, acutis, sinu rotundato vel subacuto. Cellulae apicales 23–27×25–33 μ, marginales 16–23×23–30 μ, medianae 27–30×37–50 μ, basales 17–27 ×55–70 μ, trigonis magnis, nodulosis, subconfluentibus, parietibus tenuibus, cuticula laevi. Amphigastria caulina imbricata, appressa, brevissime inserta, caule duplo latiora, subquadrata, 0.8–1.0 mm. longa et lata, margine brevissime lobato, basi cordata, appendiculata, appendiculis parvis, varie lobatis, lobis obtusis, cellulis ut in foliis.

Isl. Palau: K. Watanabe no. 64–type (in herb. Tokyo Univ. Education; duplicate in herb. NICH), no. 32. This species is similar to *B. stressmanii* Herz. and *B. merrillana* (=*Mastigobryum merrillanum* Steph.), both of Indomalaya, but it is distinct in its leaf form and under-leaves. In its leaf form, *B. watanabei* is similar to *B. fauriana* of Japan and Formosa, but the latter is much different in its under-leaves.

8. *Plectocolea ariadne* Mitt. (det. by T. Amakawa). Nos. 24, 55, 70; rather widely distributed in tropical Asia.

9. *Radula javanica* Gott. Nos. 7, 13, 29, 41, 53, 61, 70. This species seems to be one of the main component of the mossy forest of the island, and various mosses and hepatics were associated with this; widely distributed in tropical Asia.

10. *Radula anceps* Sande Lac. No. 9; known from New Guinea, Luzon, New Caledonia, Nicobar Isl.

11. *Radula novae-guineae* Steph. No. 55 (few fragments among several mosses and hepatics); previously known only from New Guinea.

12. *Radula nymanii* Steph. No. 41; known from Phillipines, Samoa, Java, New Guinea. Plants of this material are mostly prostrate on other bryophytes (such as *Radula javanica*) and show a little differentiations from typical form in the cell wall, which has distinct trigones and intermediate thicknings.

13. *Frullania gracilis* (R. B. N.) Dum. Nos. 13, 33, 53, 64; occuring fragmentally among various mosses and hepatics; widely distributed in tropical Asia.

14. *Lopholejeunea applanata* (R. B. N.) Steph. No. 41 (few fragments among mosses and hepatics); widely distributed in tropical and subtropical Asia.

15. *Lopholejeunea subfusca* (Nees) Steph. Nos. 33, 43, 44, 45; widely distributed in tropical and subtropical Asia.

16. *Cheilolejeunea imbricata* (Nees) Hatt. No. 13 (few fragments among mosses and hepatics); widely distributed in tropical and subtropical Asia.

17. *Cheilolejeunea intertexta* (Ldbg.) Steph. No. 41 (few fragments) only known from Caroline.

18. **Cheilojeunea bidentula** (Steph.) Inoue, comb. nov. ......*Pycnolejeunea bidentula* Steph. Hedwigia **28**: 259 (1899). No. 13 (few fragments); known from New Guinea, Borneo, Java, Philippines, Viti.

19. *Microlejeunea albicans* (Nees) Steph. Nos. 33, 41, 55 (all fragmental); rather widely distributed in tropical Asia.

20. *Microlejeunea cummingiana* Steph.? No. 17 (few fragments); distributed in tropical Asia.

21. *Ceratolejeunea moniliata* Herz. No. 59 (with some mosses on soil?); previously known only from Borneo.

22. *Archilejeunea mariana* (Gott.) Steph. No. 17; distributed in tropical Asia.

23. *Caudalejeunea stephanii* (Spr.) Steph. No. 13; known from Sumatra, Java, Philippines, New Guinea. This species is very close to *C. reniloba.*

24. *Rectolejeunea* sp. No. 13 (few fragments). Similar to *R. obliqua* Herz. of Formosa, but trigones are very large.

25. *Hyglolejeunea devexiloba* Steph. No. 12, 17, 29, 30,52, 53, 55, 61; always occurring with other bryophytes; widelyd distributed in tropical Asia.

26. *Hyglolejeunea sordida* (Nees) Steph. Nos. 1, 20, 44, 53, 55, 70; occurring fragmentally in other bryophytes; distributed in tropical Asia.

27. *Hyglolejeunea latistipula* Schiffn. No. 22; distributed in tropical Asia.

Lopholejeunea densiloba Horik. (Sci. Rep. Tohoku Imp. Univ. ser. 4, **4**: 421, f. 13, 1929) seems to be close to, or probably conspecific with, this species.

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東京教育大学地質学教室の渡辺影隆教授が 1940 年 12 月から 1941 年 1 月にかけてパラオ島で採集された植物のうち，苔類標本を研究した結果である。27 種を同定できたが，大部分のものはカロリン群島に未記録であり，うち 2 種は新種と考えられる。

Acromastigum palauense は葉形，腹葉の形，更に verrucose した細胞膜の性質等によつて特徴づけられる。パラオ島の資料中には量的にも多いので，近接する地域にも分布している可能性は充分あると考えられる。*Bazzania watanabei* は Sect. Appendiculatae に属する大形な種類で，葉形，腹葉の性質等によつて近似種から区別される。

量的には *Mastigophora diclados* および *Radula javanica* がいちじるしく多い。共に熱帯地方の蘚苔林に広く分布しているものである。種としては Lejeuneaceae のものが目立つて多い (14 種) が，これは熱帯地方の一つの特性でもある。Lejeuneaceae の種では 2, 3 を除いてほとんどが分布が広いものである。

○高等植物分布資料 (12) Materials for the distribution of vascular plants in Japan (12).

○チョウセンハリイ *Eleocharis leviseta* NAKAI チョウセンハリイは朝鮮と日本に分布するハリイ属の植物であるが，日本では本州(武蔵：沓掛)に稀産するだけのようである(大井氏：日本植物誌)。筆者は 1955 年壱岐島北部の勝本町新城でこれを採集した。自生地はシイを主とする浅い雑木林に沿う帯状の湿地一帯である。ここは土地改良区に編入され，昨年から始められた工事のためその群生地の全部は今姿を消そうとしている。それで記録に留めておく必要を感じ，時機を失つたがここに発表した次第である。最後に採集当時親しく同定頂いた大井次三郎博士に対し深甚の謝意を表します。(品川鉄摩，長崎県壱岐郡勝本町)

○ハンカイシオガマ *Pedicularis gloriosa* Bisset et Moore フォッサマグナ地域に分化発生したとみられる本種は西進して遠江北部まで知られているが〔原・金井：日本種子植物分布図集 1, Map. 58 (1958)〕天竜川を西に越えて愛知県三河の東北園村に産する。この辺はイワシャジン・マメザクラ・ノダケモドキなど東部に発生源をもつ種が同一分布している。(井波　一雄)